

Claims

1 A torsion system for an article of footwear, the torsion system including a longitudinal  
axis and comprising:

3 a forefoot portion;  
4 a rearfoot portion; and  
5 an intermediate portion coupling the forefoot portion and the rearfoot portion, and  
6 constructed of a material and configured to allow, in a pre-selected manner, rotation of the  
7 forefoot portion relative to the rearfoot portion about the longitudinal axis.

1 2. The torsion system of claim 1, wherein the forefoot portion and rearfoot portion rotate  
between about 5-25 degrees relative to each other about the longitudinal axis at 35 Newtons of  
torsional load.

3 3. The torsion system of claim 1, wherein the forefoot portion and rearfoot portion rotate  
between about 10-20 degrees relative to each other about the longitudinal axis at 35 Newtons of  
torsional load.

4 4. The torsion system of claim 1, wherein the forefoot portion and rearfoot portion rotate  
about 10 degrees relative to each other about the longitudinal axis at 35 Newtons of torsional  
load.

1 5. The torsion system of claim 1, wherein the intermediate portion includes a rib.

1 6. The torsion system of claim 5, wherein the rib tunes torsionability of the article of  
2 footwear.

1 7. The torsion system of claim 1, wherein the intermediate portion defines at least one  
aperture.

1 8. The torsion system of claim 1, wherein the rearfoot portion defines at least one aperture.

1 9. The torsion system of claim 1, wherein the forefoot portion, the rearfoot portion, and the  
2 intermediate portion form a single plate.

1 10. The torsion system of claim 9, wherein the plate is substantially rigid in a horizontal  
2 plane.

1 11. The torsion system of claim 9, wherein the plate is between about 1-15 mm thick.

1 12. The torsion system of claim 9, wherein the plate is between about 3-10 mm thick.

1 13. The torsion system of claim 9, wherein the plate is between about 5-8 mm thick.

1 14. The torsion system of claim 9, wherein a thickness of the plate is less in the intermediate  
2 portion than in the forefoot and rearfoot portions.

15. The torsion system of claim 9, wherein the width of the intermediate portion of the plate  
is narrower than the forefoot and rearfoot portions.

16. The torsion system of claim 9, wherein the plate comprises nylon.

17. The torsion system of claim 9, wherein the plate comprises a composite material.

18. The torsion system of claim 17, wherein the composite material is graphite.

19. The torsion system of claim 17, wherein the composite material is fiberglass.

1 20. The torsion system of claim 9, wherein the forefoot portion and rearfoot portion comprise  
2 material properties different than the intermediate portion.

An article of footwear including a torsion system, comprising:

a sole plate rigid in a horizontal plane and including a longitudinal axis, the sole plate

comprising:

a forefoot portion;

a rearfoot portion; and

an intermediate portion coupling the forefoot portion and the rearfoot portion and constructed of a material and configured to allow, in a pre-selected manner, rotation of the forefoot portion relative to the rearfoot portion about the longitudinal axis.

22. The article of footwear of claim 21, wherein the article of footwear is a cycling shoe.

23. The article of footwear of claim 21, further comprising an upper.

24. The article of footwear of claim 21, further comprising an outsole.

25. The article of footwear of claim 21, further comprising a cleat attachment system disposed on the forefoot portion.

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